



**Seabirds, Marine
Mammals and Forage
Fish in Glacier Bay
National Park**

A slide presentation of data
collected during June 1999
in a collaborative project
funded by the U.S.
Geological Survey and
National Park Service

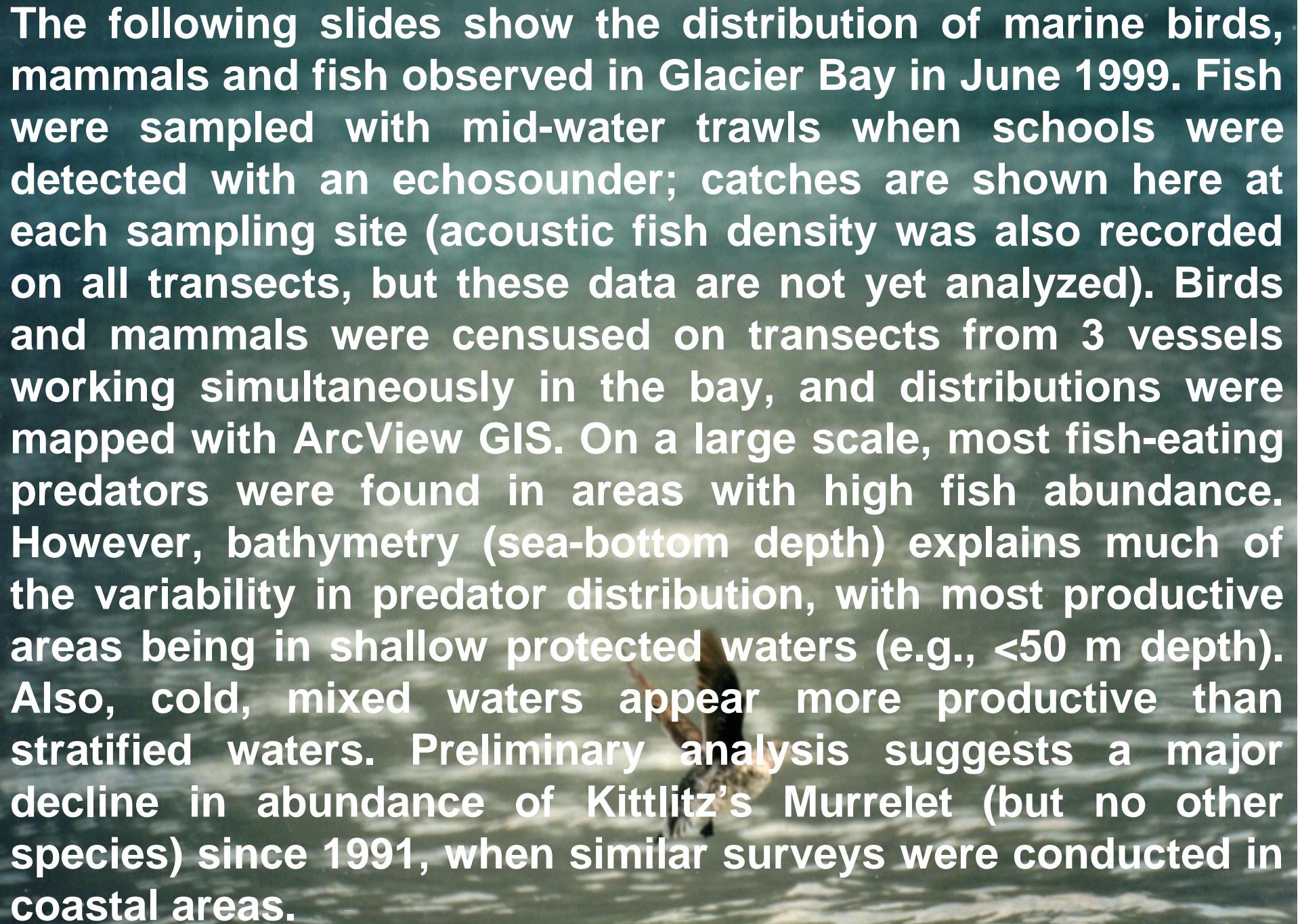
Principal Investigators:
John Piatt, Jim Bodkin, &
Jim Taggart, USGS Alaska
Biological Science Center

Mapping and Web Design:
Gary Drew and John Piatt



A Kittlitz's Murrelet in flight over water

A photograph of a Kittlitz's Murrelet in flight, captured from a low angle. The bird is shown from its side, facing left, with its wings spread wide. Its body is dark brown on top and white below, with distinct dark spots or streaks on its white plumage. The background consists of a textured, blue-green surface, likely the ocean, with small white specks that could be other birds or marine life. The lighting suggests a bright day with some clouds.



The following slides show the distribution of marine birds, mammals and fish observed in Glacier Bay in June 1999. Fish were sampled with mid-water trawls when schools were detected with an echosounder; catches are shown here at each sampling site (acoustic fish density was also recorded on all transects, but these data are not yet analyzed). Birds and mammals were censused on transects from 3 vessels working simultaneously in the bay, and distributions were mapped with ArcView GIS. On a large scale, most fish-eating predators were found in areas with high fish abundance. However, bathymetry (sea-bottom depth) explains much of the variability in predator distribution, with most productive areas being in shallow protected waters (e.g., <50 m depth). Also, cold, mixed waters appear more productive than stratified waters. Preliminary analysis suggests a major decline in abundance of Kittlitz's Murrelet (but no other species) since 1991, when similar surveys were conducted in coastal areas.

Kudos

Surveys for fish, birds and mammals in Glacier Bay were designed and conducted by: Alisa Abookire, Yumi Arimitsu, Brenda Ballachey, Jim Bodkin, Gary Drew, George Esslinger, Janene Driscoll, Kim Kloecker, Kathy Kuletz, Dan Monson, John Piatt, Martin Robards and Suzann Speckman.

Suzann Speckman, Alisa Abookire and Gary Drew organized the fish and bird data for the maps that appear in this presentation. Special thanks to Captains Mark Hottmann of the ADF&G vessel *R/V Pandalus* and Jim de la Bruere of the USGS vessel *R/V Tamnik* for their capable assistance on surveys.

We are also grateful to MaryBeth Moss, Philip Hooge and Mary Kralovec for logistic support in Glacier Bay National Park.

